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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/543,037

07/21/2005

Johannes Schweiger

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FASSE PATENT ATTORNEYS, P.A.  
P.O. BOX 726  
HAMPDEN, ME 04444-0726

EXAMINER

XAVIER, VALENTINA

ART UNIT

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3644

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/543,037	<b>Applicant(s)</b> SCHWEIGER, JOHANNES	
	<b>Examiner</b> VALENTINA XAVIER	<b>Art Unit</b> 3644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 21 July 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 19-35 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 19-35 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>7/21/2005</u> .   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Claim Objections***

Claim 28 recites the limitation "the rotation axis" in line 2. There is insufficient antecedent basis for this limitation in the claim.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claims 1, 2, 19, 20, 21, 23, 24, 25, 32, 34, and 35 are rejected under 35 U.S.C. 102(b) as being anticipated by Klug (US 4,722,499).**

**With regard to claims 1, 34, and 35:**

Klug discloses

-a flow surface of a device moving in a fluid (See Fig. 1), especially a flying machine, especially a lifting surface of a flying machine (aircraft wing);

- whereby the surface has an elastic axis, EA, (9) extending in the span direction of the surface;
- an adjustable control surface (4 and 5), and
- a control and/or regulating arrangement (Col. 7; Lines 17 – 33) for the adjustment of the control surface.

Klug's control/ regulating arrangement is provided for the generation of an actuating signal for the control surface from data relating to the aircraft loading and the flight condition, with utilization of stored nominal value data (See Col. 7; Lines 17 to 33 and Col. 7; Lines 59 – 68).

**With regard to claim 2:**

Klug's control surface (4 and 5) is arranged offset by a spacing distance relative to the EA (9) – See Fig. 1.

**With regard to claim 19:**

Klug's control surface (4 and 5) is arranged rotatably supported about a rotation axis (6) and the rotation axis or at least a component thereof extends in the direction of the EA - See Fig. 9.

**With regard to claims 20 and 21:**

Klug discloses the control surface being arranged behind or in front of the EA - See Fig. 1.

**With regard to claim 23:**

Klug discloses the control surface being arranged outside of the wing span – See Fig. 1.

**With regard to claims 24 and 25:**

Klug discloses the control surface being arranged behind the leading edge of the surface - See Fig. 1.

**With regard to claim 32:**

Klug's surface is a lifting surface of an aircraft.

**Claims 1, 26, 27, 28, 29, 30, and 31 are rejected under 35 U.S.C. 102(b) as being anticipated by Klug (US 4,722,499).**

**With regard to claim 1:**

Klug discloses

-a flow surface of a device moving in a fluid (See Fig. 1), especially a flying machine, especially a lifting surface of a flying machine (aircraft wing);

- whereby the surface has an elastic axis, EA, (9) extending in the span direction of the surface;
- an adjustable control surface (4), and
- a control and/or regulating arrangement (Col. 7; Lines 17 – 33) for the adjustment of the control surface.

**With regard to claim 26:**

Klug discloses that the control surface (4) is provided in addition to a wing tip surface (5) at the surface tip.

**With regard to claim 27:**

Klug's control surface (4) is embodied as a wing tip surface (See Abstract of Klug).

**With regard to claims 28 and 29:**

Klug's rotation axis of the control surface (4) forming the wing tip surface extends obliquely relative to the direction of the EA (See Fig. 1) and also continues the lifting wing at its tip obliquely or vertically upwardly (See Figs. 1 and 2).

**With regard to claims 30 and 31:**

Klug discloses that the surface is a lifting wing of a flying machine, whereby the wing tip surface continues the lifting wing at its tip obliquely or vertically upwardly (See Figs. 1

and 2) and the control surface continues the lifting wing in its direction or obliquely downwardly (See Figs. 1 and 2).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Klug as applied to claim 1 above and further in view of Allen (US 5,988,563).**

**With regard to claim 22:**

Klug fails to disclose that the control surface is arranged within the wing span. However, Allen discloses an articulating control surface (12) that is arranged within the wing span (when in its "initial, vertical position" - abstract). It would have been obvious to one having ordinary skill in the art at the time the invention was made to allow the control surface taught by Klug to move to a completely vertical position, and therefore be arranged within the wing span, in order to reduce bending moment on the wing as well as increase aerodynamic efficiency of the aircraft.

**Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Klug as applied to claim 1 above and further in view of Toulmay (US 6,142,738).**

**With regard to claim 33:**

Although Klug does not disclose the lifting surface of a rotary wing aircraft, Toulmay discloses a blade for a rotary wing aircraft including a blade tip winglet (See Abstract of Toulmay). It would have been obvious to one having ordinary skill in the art at the time the invention was made to include this winglet on the blade of a rotary wing aircraft in order to reduce the blade-vortex interaction noise (BVI) during descending flight.

Furthermore, it has been held that the recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ2d 1647 (1987).

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to VALENTINA XAVIER whose telephone number is (571)272-9853. The examiner can normally be reached on Mon - Fri 8:30 AM - 5:00 PM.



If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Mansen can be reached on (571)272-6608. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Valentina Xavier

/Michael R Mansen/  
Supervisory Patent Examiner, Art  
Unit 3644

VX